

1641/16
✓

Attorney Docket No. 60021010-0006

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:)	Group Art Unit: 1641
)	
Nancy ALLBRITTON)	Examiner: Deborah A. Davis
)	
Application No. 09/945,396)	
)	
Filed: August 30, 2001)	
)	
For: Method and Apparatus for Detecting)	
Enzymatic Activity Using Molecules)	
That Change Electrophoretic Mobility)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
BEFORE MAILING DATE OF EITHER A FINAL ACTION
OR NOTICE OF ALLOWANCE (37 C.F.R. § 1.97(c))**

**TIME OF TRANSMITTAL OF ACCOMPANYING
INFORMATION DISCLOSURE STATEMENT**

The information disclosure statement transmitted herewith is being filed *after* three months of the filing date of this national application or the date of entry of the national stage as set forth in Section 1.491 in an international application or after the mailing date of the first Office action on the merits, whichever event occurred last but *before* the mailing date of either a final action under Section 1.113 or a notice of allowance under Section 1.311, whichever occurs first.

01/22/2004 BSAYAS11 00000080 09945396

01 FC:1806

180.00 0P

Transmittal of Information Disclosure Statement
Page 2

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. § 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Copies of cite numbers 1 and 2 are provided herein. Please note that cite number 1 is the parent of this application, and cite number 2 is the parent of cite number 1. The remaining references contained in this information disclosure statement were cited in the parent application, and therefore copies are not being provided.

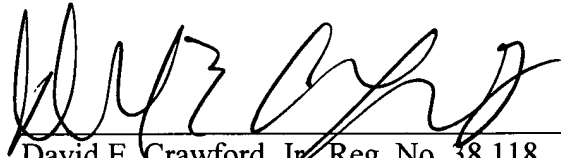
Applicants submit herewith a credit card payment form in the amount of \$180.00 to cover the fee set forth in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under § 1.97(c).

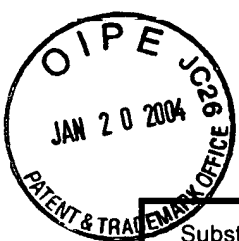
The Commissioner is hereby authorized to credit overpayments or to charge any deficiency in a required fee to Deposit Account No. 19-3140. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Dated: 14 JAN 04

By:


David E. Crawford, Jr., Reg. No. 38,118
Customer No. 26263
314.259.5810



Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) Sheet 1 of 4				Complete if Known	
				Application Number	09/945,396
				Filing Date	August 30, 2001
				First Named Inventor	Nancy Allbritton
				Group Art Unit	1641
				Examiner Name	Deborah A. Davis
				Attorney Docket Number	60021010-0006

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	1	US-6,335,201	01-01-2002	Allbritton et al.	
	2	US-6,156,576	12-05-2000	Allbritton et al.	
	3	US-5,145,567	09-08-1992	Hsieh et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁵
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
	4	JP 410033197	2-10-1998	Shimura et al.		<input type="checkbox"/>

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

23134335V-1

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Please type a plus sign (+) inside this box ☐

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of info unless it contains a valid OMB control no.

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Complete if Known			
		Application Number	09/945,396		
		Filing Date	August 30, 2001		
		First Named Inventor	Nancy Allbritton		
		Group Art Unit	1641		
		Examiner Name	Deborah A. Davis		
Sheet	2	of	4	Attorney Docket No.	60021010-0006
OTHER ITEMS – NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T²
	5	ADAMS et al., "The Analysis of Multiple Phosphoseryl-Containing Casein Peptides Using Capillary Zone Electrophoresis," J. Chromatography, 1993, pp. 391-396, Vol. 646.			
	6	BAO et al., "Determination of Minute Enzymatic Activities by Means of Capillary Electrophoretic Techniques," J. Chromatography, 1997, pp. 481-497, Vol. 699.			
	7	CANN et al., "A Tyrosine Kinase Assay Using Reverse-Phase High-Performance Liquid Chromatography," Anal. Biochem., 1997, pp. 327-333, Vol. 247.			
	8	CHEN et al., "Chemical Analysis of Single Cells and Exocytosis," Crit. Rev. Neurobiol., 1997, pp. 59-90, Vol. 11.			
	9	CHIU et al., "Probing Single Secretory Vesicles with Capillary Electrophoresis," Science, 1998, pp. 1190-1193, Vol. 279.			
	10	CRAIG et al., "Monitoring Protein Kinase and Phosphatase Reactions with Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry and Capillary Zone Electrophoresis: Comparison of the Detection Efficiency of Peptide-Phosphopeptide Mixtures," Biol. Mass Spectrometry, 1994, pp. 519-528, Vol. 23.			
	11	CRUZ et al., "Nitrite and Nitrate Levels in Individuals Molluscan Neurons: Single-Cell Capillary Electrophoresis Analysis," J. Neurochem., 1997, pp. 110-115, Vol. 69.			
	12	DAWSON et al., "A Capillary Electrophoresis-Based Assay for Protein Kinases and Protein Phosphatases Using Peptide Substrates," Anal. Biochem., 1994, pp. 340-345, Vol. 220.			
	13	ERIM et al., "Performance of a Physically Adsorbed High-Molecular-Mass Polyethyleneine Layer as Coating for the Separation of Basic Proteins and Peptides by Capillary Electrophoresis," J. Chromatography, 1995, pp. 356-361, Vol. 708.			
	14	EWING, "Microcolumn Separations of Single Nerve Cell Components," J. Neurosci. Meth., 1993, pp. 215-224, Vol. 48.			
	15	FLOYD et al., "Capillary Electrophoresis Analysis of Nitride Oxide Synthase Related Metabolites in Single Identified Neurons," Anal. Chem., 1998, pp. 2243-2247, Vol. 70.			
	16	FULLER et al., "Single Neuron Analysis by Capillary Electrophoresis with Fluorescence Spectroscopy," Neuron, 1998, pp. 173-181, Vol. 20.			
	17	GILMAN et al., "Analysis of Single Cells by Capillary Electrophoresis with On-Column Derivatization and Laser-Induced Fluorescence Detection," Anal. Chem., 1995, pp. 58-64, Vol. 67.			

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	09/945,396
				Filing Date	August 30, 2001
				First Named Inventor	Nancy Allbritton
				Group Art Unit	1641
Examiner Name	Deborah A. Davis				
Attorney Docket No.	60021010-0006				
Sheet	3	of	4		
OTHER ITEMS – NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²		
	18	GIULIANO et al., "Fluorescent Protein Biosensors: Measurement of Molecular Dynamics in Living Cells," Annu. Rev. Biophys. Struct., 1995, pp. 405-434, Vol. 24.			
	19	HEPALA, "Breaking the Barrier: Methods for Reversible Permeabilization of Cellular Membranes," Critical Reviews in Biotechnology, 1997, pp. 105-122, Vol. 17.			
	20	HERNANDEZ et al., "Laser-Induced Fluorescence and Fluorescence Microscopy for Capillary Electrophoresis Zone Detection," Chromatography, 1991, pp. 183-196, Vol. 23.			
	21	HIGASHI et al., "Imaging of cAMP-Dependent Kinase Activity in Living Neural Cells Using a Novel Fluorescent Substrate," FEBS Lett., 1997, pp. 55-60, Vol. 414.			
	22	HOFFMANN, "The Potential for Isoenzyme-Selective Modulation of Protein Kinase C," FASEB J., 1997, pp. 649-669, Vol. 11.			
	23	HOGAN et al., "Determination of Intracellular Species at the Level of a Single Erythrocyte Via Capillary Electrophoresis with Direct and Indirect Fluorescence Detection," Anal. Chem., 1992, pp. 2841-2845, Vol. 64.			
	24	ISBELL et al., "A Non-Radioactive Fluorescent Method for Measuring Protein Kinase C Activity," Life Sciences, 1995, pp. 1701-1707, Vol. 57.			
	25	JANKOWSKI et al., "Assaying Single Cells with Capillary Electrophoresis," Trends in Anal. Chem., 1995, pp. 170-176, Vol. 14.			
	26	KENNELLY et al., "Consensus Sequences as Substrate Specificity Determinants for Protein Kinases and Protein Phosphatases," J. Biol. Chem., 1991, pp. 15555-15558, Vol. 226.			
	27	KLANN et al., "Mechanism of Protein Kinase C Activation During the Induction and Maintenance of Long-Term Potentiation Probed Using a Selective Peptide Substrate," Proc. Natl. Acad. Sci. USA, 1993, pp. 8337-8341, Vol. 90.			
	28	LEE et al., "Quantitative Determination of Native Proteins in Individual Human Erythrocytes Capillary Zone Electrophoresis with Laser-Induced Fluorescence Detection," Anal. Chem., 1992, pp. 3045-3051, Vol. 64.			
	29	LEE et al., Nature Biotechnology, 1999, pp. 759-762, Vol. 17.			
	30	LILLARD et al., "Separation of Hemoglobin Variants in Single Human Erythrocytes by Capillary Electrophoresis with Laser-Induced Native Fluorescence Detection," J. Chromatography, 1995, pp. 397-404, Vol. 718.			
	31	LILLARD et al., "Monitoring Exocytosis and Release from Individual Mast Cells by Capillary Electrophoresis with Laser-Induced Native Fluorescence Detection," Anal. Chem., 1996, pp. 2897-2904, Vol. 68.			
	32	LILLARD et al., "Capillary Electrophoresis for the Analysis of Single Cells: Laser-Induced Fluorescence Detection," Handbook of Capillary Electrophoresis, J.P. Landers, Boca Raton, FL, CRC Press, pp. 523-544.			
	33	LUZZI et al., "Localized Sampling of Cytoplasm for Xenopus Oocytes," Anal. Chem., 1997, pp. 4761-4767, Vol. 23.			
	34	MCILROY et al., "A Continuous Fluorescence Assay for Protein Kinase C," Anal. Biochem., 1991, pp. 148-152, Vol. 195.			



Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	09/945,396
				Filing Date	August 30, 2001
				First Named Inventor	Nancy Allbritton
				Group Art Unit	1641
				Examiner Name	Deborah A. Davis
				Attorney Docket No.	60021010-0006
Sheet	4	of	4		
OTHER ITEMS – NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
	35	MILLER et al., "Enzymatic Profiling of Immobilized Cells Using CZE," Anal. Chem., 1994, pp. 24240-2423, Vol. 66.			
	36	PIHEL et al., "Electrochemical Detection of Histamine and 5-Hydroxytryptamine at Isolated Mast Cells," Anal. Chem., 1995, pp. 4514-4521, Vol. 67.			
	37	POST et al., "A Fluorescent Protein Biosensor of Myosin II Regulatory Light Chain Phosphorylation Reports a Gradient of Phosphorylated Myosin II in Migrating Cells," Mol. Biol. Cell, 1995, pp. 1755-1768, Vol. 6.			
	38	REGNIER et al., "Electrophoretically-Mediated Microanalysis (EMMA)," Trends in Anal. Chem., 1995, pp. 177-181, Vol. 14.			
	39	SALA-NEWBY et al., "Engineering Firefly Luciferase as an Indicator of Cyclic AMP-Dependent Protein Kinase in Living Cells," FEBS Lett., 1992, pp. 241-244, Vol. 307.			
	40	SNOW et al., Anal. Biochem., 1999, pp. 36-42, Vol. 271.			
	41	TAN et al., "Simultaneous Determination of Enzyme Activity and Enzyme Quantity in Single Human Erythrocytes," Anal. Biochem., 1995, pp. 74-79, Vol. 226.			
	42	TSIEN, "The Green Fluorescent Protein," Annu. Rev. Biochem., 1998, pp. 509-544, Vol. 67.			
	43	WU et al., Anal. Biochem., 1999, pp. 423-425, Vol. 269.			
	44	XUE et al., "Determination of Lactate Dehydrogenase Isoenzymes in Single Lymphocytes from Normal and Leukemia Cells Lines," J. Chromatography, 1996, pp. 233-240, Vol. 677.			
	45	XUE et al., Anal. Chem., 1994, pp. 1175-1178, Vol. 66.			
	46	YEUNG, "Chemical Analysis of Single Human Erythrocytes," Acc. Chem. Res., 1994, pp. 409-414, Vol. 27.			
	47	ZHANG et al., Electrophoresis, 1996, pp. 372-378, Vol. 17.			
	48	ZHAO et al., Glycobiology, 1994, pp. 239-242, Vol. 4.			

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--